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ABSTRACT:

PROBLEM TO BE SOLVED: To obtain a suede-like artificial leather having a soft touch and a graceful appearance by forming a pattern by a lightness and darkness of the same color, or by different colors on the surface of an elastic polymer-impregnated nonwoven fabric having the surface covered with raised ultrafine fibers.

SOLUTION: A prescribed number of sheets of carded web of fibers consisting essentially of fibers capable of generating ultrafine fibers having ≤ 0.3 de sizes, and made of island parts of a nylon and sea parts of a fluid low-density polyethylene are laminated and the laminated webs are subjected to needle-punch finishing to provide a three-dimensionally entangled nonwoven fabric. The obtained nonwoven fabric is pressed, and a solution or a dispersion of a high molecular elastomer such as a polyurethane is impregnated therein. The high

molecular elastomer is coagulated, and the resultant nonwoven fabric is subjected to a treatment for removing the sea component by using hot toluene or the like to generate the ultrafine fibers and to provide an artificial leather base. The obtained artificial leather base is subjected to buffing finishing to form raised fibers of the ultrafine fibers on the surface, and a dye solution is coated in a pattern shape. The fixing treatment of the coated dye is carried out, and the whole of the dyed product is dyed by dip-dyeing method to provide the objective suede-like artificial leather having the pattern.

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(54) SUEDE-LIKE ARTIFICIAL LEATHER HAVING PATTERN AND ITS PRODUCTION

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain a suede-like artificial leather having a soft touch and a graceful appearance by forming a pattern by a lightness and darkness of the same color, or by different colors on the surface of an elastic polymer-impregnated nonwoven fabric having the surface covered with raised ultrafine fibers.

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CLAIMS

[Claim(s)]

[Claim 1]It is covered by piloerection which a base surface which consists of a three-dimensional interlaced nonwoven fabric which consists of textiles which make a subject super-thin textiles of 0.3 denier or less, and a polymeric elastomer becomes from these super-thin textiles, And suede tone artificial leather having the design pattern formed of two or more colors from which a shade color of the same hue or hue differs without carrying out adhesion convergence of the piloerection textiles substantially.

[Claim 2]A manufacturing method of suede tone artificial leather performing the following processes of (1) to (9) one by one.

(1) A staple which makes a subject super-thin textiles type-of-seasonal-prevalence textiles which generate super-thin textiles of 0.3 denier or less, A process which laminates a process and (2) Webb who card and consider it as Webb, carries out needle punch and is used as a nonwoven fabric, (3) A process, (4) polymeric elastomer solutions, or dispersion liquid which presses a nonwoven fabric which carried out needle punch is impregnated, Buffing of a process which solidifies a polymeric elastomer, a process of generating super-thin textiles from (5) super-thin textiles type-of-seasonal-prevalence textiles, and obtaining an artificial leather base, and the base surface (6) Acquired is carried out with a sandpaper, A process which makes piloerection form in this surface, a process to which a color which carried out process (8) spreading which applies (7) dye solutions in the shape of a handle is made to adhere, a process of dyeing the whole base surface using a color by (9) dip-dyeing method [Claim 3]A manufacturing method of suede tone artificial leather performing the following processes of (7) to (9) one by one after the process of (1) to (6) according to claim 3.

(7) A process of applying a process (8) dye solution which the whole base surface is dyed using a color by a dip dyeing method in the shape of a handle, a process to which a color which carried out (9) spreading is made to adhere, [Claim 4]A manufacturing method of suede

tone artificial leather performing the following processes of (7) and (8) one by one after the process of (1) to (6) according to claim 2.

(7) A process to which a color which carried out process (8) spreading which applies a dye solution in the shape of a handle is made to adhere, [Claim 5]A manufacturing method of suede tone artificial leather which reverses an order of a process (4) and a process (5) in one method of claims 3-5.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application]This invention relates to the suede tone artificial leather used for garments, a glove, shoes, a bag, etc. which have a design pattern and have graceful appearance.

[0002]

[Description of the Prior Art]The artificial leather which has the super-thin textiles pileerection is widely used for the field for which natural leather, such as garments, a glove, shoes, and a bag, is used as compared with high-class appearance and natural leather similar to natural leather suede from that quality is uniform, lightweight being a thing, care and cleaning being easy, etc. However, appearance was the same color fundamentally, was too uniform, and there were many monotonous things. The demand in changeeful appearance is increasing in recent years, and many trials have been carried out in order to obtain the artificial leather which has a design pattern. For example, after dyeing uniformly, applying paints with the gravure roll which has a design pattern is carried out. Pigment printing which uses a screen is also performed widely. The trial which acquires the appearance which has a design pattern which consists of a grain and a suede portion by carrying out grinding removal of a part of grain is also made.

[0003]

[Problem(s) to be Solved by the Invention]However, in the method of applying paints to the suede surface, although a design pattern is acquired, **** adherence of the portion to which paints were applied is carried out with binder resin for the super-thin textiles pileerection to fix paints, and the writing effect and graceful tactile feeling which consist of super-thin textiles pileerection are falling. In the method of grinding a part of grain, appearance cannot be said to be suede and the writing effect or graceful tactile feeling which consist of super-thin textiles

piloerection are not obtained.

[0004]There is this invention in providing the suede tone artificial leather which is covered by the super-thin textiles piloerection in the whole surface, has the writing effect which is the feature of suede, and soft tactile feeling, and has the graceful appearance further brewed from the feeling of a design by the shade color of the same color tone, or a different color tone.

[0005]

[Means for Solving the Problem]It found out that it was possible to obtain suede tone artificial leather with a design pattern, with suede appearance maintained, without this invention persons' having done research and as a result spoiling super-thin textiles piloerection, in order to attain the above-mentioned purpose. Namely, it is covered by piloerection which a base surface which consists of a three-dimensional interlaced nonwoven fabric which consists of this invention and textiles which make a subject super-thin textiles of 0.3 denier or less, and a polymeric elastomer becomes from these super-thin textiles, And the piloerection textiles are suede tone artificial leather having the design pattern formed of two or more colors from which a shade color of the same hue or hue differs without carrying out adhesion convergence.

[0006]In the above-mentioned suede tone artificial leather, piloerection of surface [a part of] or all the handle portions and the depth of shade of a base portion differ from hue still more preferably.

[0007]Suede tone artificial leather in this invention is obtained by performing the following processes of (1) to (9) one by one.

(1) A staple which makes a subject super-thin textiles type-of-seasonal-prevalence textiles which generate super-thin textiles of 0.3 denier or less, A process which laminates a process and (2) Webb who card and consider it as Webb, carries out needle punch and is used as a nonwoven fabric, (3) A process, (4) polymeric elastomer solutions, or dispersion liquid which presses a nonwoven fabric which carried out needle punch is impregnated, Buffing of a process which solidifies a polymeric elastomer, a process of generating super-thin textiles from (5) super-thin textiles type-of-seasonal-prevalence textiles, and obtaining artificial leather ***** , and the base surface (6) Acquired is carried out with a sandpaper, In a process of obtaining surface piloerection, a process of applying (7) dye solutions in the shape of a handle, a process to which a color which carried out (8) spreading is made to adhere, a process of dyeing the whole base surface using a color by (9) dip-dyeing method, and this manufacturing method, A method of performing a reverse order (5), i.e., a process, for a process (4) and a process (5) previously, and performing a process (4) after it may be used. Or performing the following processes of (7) to (9) one by one after a process of (1) to (6) is also acquired. (7) Performing following (7) and a process of (8) one by one after a process of applying a process (8) dye solution which the whole base surface is dyed using a color by a dip dyeing method in the shape of a handle, a process to which a color which carried out (9) spreading is

made to adhere, and a process of (1) to (6) is also acquired. .

(7) A process of applying a dye solution in the shape of a handle, a process to which a color which carried out (8) spreading is made to adhere, [0008]

[Embodiment of the Invention]The super-thin textiles type-of-seasonal-prevalence textiles which generate super-thin textiles (A) with a fineness of 0.3 denier or less used for this invention are obtained compound spinning or by carrying out blend spinning in two or more sorts of thermoplastic polymer which does not have compatibility. The gestalt of the typical textiles is called what is called sea-island type section textiles. It is polymer which melt spinning is possible and fully demonstrates textiles physical properties, such as intensity, as island component polymer of textiles, Polymer with melt viscosity larger than sea component polymer and and large surface tension is preferred under spinning conditions, For example, polyester system polymer, such as polyamide system polymer, such as 6-nylon and 66-nylon, and a copolymer which makes this a subject, polyethylene rente REFUTATO, and polybutylene terephthalate, the copolymer which makes this a subject, etc. are used suitably. As sea component polymer, melt viscosity is lower than island component polymer, the solubility to the solvent which differs in solubility with an island component and resolvability, and is used for the dissolution of a sea component and removal, or a decomposition agent is large, and polymer with small compatibility with an island component is preferred. For example, polyethylene, modified polyethylene, polypropylene, polystyrene, denaturation polyester, etc. are used suitably.

[0009]The ranges of the suitable sea island volume ratio of the super-thin textiles type-of-seasonal-prevalence textiles which generate super-thin textiles (A) with a fineness [in this invention] of 0.3 denier or less, i.e., sea island textiles, are sea:island =30 / 70 - 70/30. A sea component in the ratio in which there are too few ingredients which dissolve or remove [decomposition] by solvent or a decomposition agent at less than 30% for pliability to be revealed enough, and a sea component exceeds 70%. It is unsuitable also from a viewpoint of productivity that there are many ingredients which cannot secure sufficient physical properties as a leather Mr. sheet with little absolute magnitude of the textiles which consist of an island component after the dissolution or decomposition removal, and dissolve or remove [decomposition].

[0010]0.3 denier or less of average textiles deniers [0.1 denier or less of] of the suitable island component after carrying out dissolution removal of the sea component in this invention are 0.05 denier or less more preferably. When the textiles denier of an island exceeds 0.3 denier, it becomes tactile feeling which the pliability of the base was spoiled and was made into GOWAGOWA. In the case of 0.1 denier or less, it becomes especially with the thing of the suede tone covered with the detailed piloerection textiles as for which a high-class feeling exists. Let super-thin textiles type-of-seasonal-prevalence textiles be a staple through

processing of extension, crimp, heat setting, a cut, etc. by a publicly known method conventionally below.

[0011]Oils, such as silicon, may be given to the staple of super-thin textiles type-of-seasonal-prevalence textiles. The oils of the silicon system of the polyorganosiloxane which is effective in lowering friction between textiles as a kind of the oils, or various kinds which denaturalized, And taking the special feature of textiles into consideration, it blends and publicly known oils, such as oils of a straight-mineral-oil system which is effective in summarizing between textiles and lowering friction between opposite metal, and other sprays for preventing static electricity, are given. As a process to give, any may be sufficient before the crimp of each textiles, and after crimp at the time of cotton-mixing of both textiles. The oils in which kinds differ may be given to super-thin textiles type-of-seasonal-prevalence textiles. As for super-thin textiles type-of-seasonal-prevalence textiles, it is preferred to give preponderantly the oils which troubles in a card and a needle process, such as coiling round and a textiles crack, occur easily, therefore reduce a coefficient of friction for textiles. Then, it can obtain by making a super-thin textiles type-of-seasonal-prevalence textiles staple into random Webb or clo slap Webb through a card and a webber by a publicly known method, and laminating these Webb.

[0012]Although a thing with a publicly known felt needle of the needle punch in this invention is used, 1 varve needle to Webb's thickness direction with which it sews and a textiles piece does not happen to performing the price easily is used suitably. In order to raise the specific gravity of the surface of a nonwoven fabric, the needle of many varves, such as three varves, six varves, and nine varves, can be used. These needles may be combined for the purpose.

[0013]Although the number of punches in a needle punch process changes with the shape of the needle to be used, and Webb's thickness, it is set up in the range of 200 - 2500 punch / cm^2 . In the needle punch of super-thin textiles type-of-seasonal-prevalence textiles generally, Shortage of the number of textiles which cutting of super-thin textiles type-of-seasonal-prevalence textiles and a textiles crack start when needle punch conditions are too strong, interlacement does not improve, and is located in a line with a thickness direction when needle punch conditions are too weak is imitated, it comes, interlacement does not improve, and the suede side where beautiful fluff density is high and which exists in a high-class feeling is hard to be acquired.

[0014]The nonwoven fabric by which needle punch was carried out smooths the surface next, and it presses it in a thickness direction in order to regulate thickness. Publicly known methods, such as the method of letting between two or more heating rollers pass and the method of letting the preheated nonwoven fabric pass between cooling rollers, can be conventionally used for the method of a press, and it can attain smoothing of a nonwoven fabric more by melting and sticking by pressure of low-melt-viscosity ingredients, such as a sea component in super-thin textiles type-of-seasonal-prevalence textiles, i.e., polyethylene

etc. Giving removable adhesives, such as polyvinyl alcohol, starch, a resin emulsion, in the case of this process, in order to control the shape change of the process by tension, a press, etc. does not interfere.

[0015]Next, it is impregnated with the nonwoven fabric which smoothed the field, and it solidifies a polymeric elastomer solution or dispersion liquid in the shape of sponge. The resin used for manufacture of a leather Mr. sheet from the former as a polymeric elastomer is used suitably. That is, polyurethane system resin, polyvinyl chloride resin, polyacrylic acid system resin, polyamino acid system resin, silicon system resin and these copolymerization, these mixtures, etc. are preferred. Polyurethane resin is especially preferred from the aesthetic property like natural leather, tactile feeling, etc. being obtained. After said nonwoven fabric is impregnated with these resin as a drainage system emulsion or an organic solvent solution, it is solidified in the shape of sponge by performing wet coagulation etc.

[0016]The fiber base which carried out impregnating coagulation of a polymeric elastomer solution or the dispersion liquid, Next, it is the nonsolvent of super-thin textiles and a polymeric elastomer, and by dissolving or decomposition removing this sea component with the liquid which is the solvent or decomposition agent of a sea component of super-thin textiles type-of-seasonal-prevalence textiles, super-thin textiles of 0.3 denier or less are generated, and the artificial leather base which consists of super-thin textiles and a polymeric elastomer is obtained.

[0017]Although the thickness of an artificial leather base can be arbitrarily chosen according to a use and it is not limited in particular, they are 0.3 mm - 3 mm preferably. As a quantitative ratio of the fiber material and polymeric elastomer which make super-thin textiles a subject, 35 / 65 - 65/35 are preferred at a weight ratio. If it separates from this range, the balance of textiles and an elastic polymer will worsen and the sense of fulfillment and pliability as a product will no longer be acquired.

[0018]Next, the textiles piloerection side which carried out raising treatment at least of one side of the artificial leather base which consists of a super-thin textiles interlaced nonwoven fabric and a polymeric elastomer, and made super-thin textiles the subject is made to form. After performing thickness doubling in the thickness of a request of a base as a method of making a textiles piloerection side forming, or before performing thickness doubling, the buffing disposal method by a sandpaper etc. is typical. And if it is in some which are not performing thickness doubling, thickness doubling is performed in desired thickness, and a piloerection fiber base is obtained.

[0019]In order to make a design pattern reveal, without spoiling the piloerection of the obtained piloerection fiber base, one of the following methods is taken. First, apply a dye solution to a fiber base in the shape of a handle on a screen etc., the applied color is made to adhere by the hot water middle class, and a design pattern is made to dye first. Then, the whole base surface

is dyed using a color by a dip dyeing method. If it does in this way, the design pattern dyed previously can remain and the color moreover dyed later can dye the whole a predetermined color. In this method, the handle portion dyed previously will be dyed twice, and it becomes delicate tone with soft warmth which was obscured with the color which arrived first previously, and the next color, And the depth of shade or the color tone of a base layer which the pile-erection of the handle portion dyed previously was strongly dyed by the color dyed later, and was dyed previously is different, and a delicate change is obtained.

[0020]It is very good in the following methods. First, dye the whole for a pile-erection fiber base by a dip dyeing method, the color which applied the dye solution in the shape of a handle, and applied it on the screen etc. is made to adhere after that, and a design pattern is made to dye first. In this method, a boundary and tone difference become clear from the previous method, and the design pattern made to dye later can acquire the design pattern which clarified.

[0021]It is possible also by the following methods simpler. That is, it is making the color which the color's was applied also except [whole] the design pattern portion at once on a print roll or a screen, and applied the whole pile-erection textiles base in hot water after that adhere. however -- since it is hard to become with the color tone which has depth in the design pattern acquired in the case of this method, if it compares with said method carried out -- a high-class feeling -- inferior in respect of a certain color tone.

[0022]The screen which has a slit the print roll or the shape of a handle into which it was sculptured by the design pattern is preferably used for the method of applying a color to a pile-erection textiles base. About dyeing in a dip dyeing method, conventionally publicly known dyeing machines, such as a winch, a dashed line, and a circular, are used. The color used for dyeing the color used for a design pattern and the whole may be a thing of a same color system, or may be a thing of a unique system. When the design pattern by the shade of a color is acquired when using the color of a same color system, and using the color of a unique system, the design pattern by a unique effect is acquired. It is also DEKIRU to make a design pattern into a multicolor design pattern in this invention using the screen of two or more sheets.

[0023]The color to be used has a preferred color which dyes polyamide super-thin textiles and polyurethane, such as acid dye and auriferous complex salt dye, and especially its 2:1 type metal complex dye is preferred. It is preferred to carry out a bottoming in advance of dyeing in 2:1 type metal complex dye with the color in which washing fastness, such as sulfide dye and vat dye, is not reduced beforehand. In dyeing, in the dye concentration of dye liquor, a dark color is acquired so that it is high, but as for dye concentration, since it is easy to become what has low washing fastness, dyeing at 3% or less is preferred. It is also preferred to carry out brush processing of the sheet after dyeing in the state where it got wet because of the improvement in fastness.

[0024]Although what melted the above-mentioned color in water deals with the dye solution to apply and it is [top] preferred, the solution melted into an organic solvent can also be used. When using solution, in order to make easy spreading to a textiles piloerection base, and osmosis, a surface-active agent or isopropyl alcohol, and a solvent like dimethylacetamide may be added. As a design pattern to apply, any may be sufficient as a geometrical pattern, a logo mark, a character pattern, a camouflage effect, etc.

[0025]The dyed piloerection fiber base accepts necessity, is light[-proof]-processed, is rubbed, performs finish processings, such as softening processing and brushing, and uses them as the product of a textiles piloerection sheet. Since suede tone artificial leather of this invention is not coloring by paints like conventional design pattern suede tone artificial leather, It is not necessary to use binder resin for making paints adhere to the piloerection surface, adhesion convergence of the piloerection textiles is not substantially carried out in suede tone artificial leather of this invention, therefore the writing effect very important for suede tone artificial leather is not spoiled. As for suede tone artificial leather of this invention, the whole surface is covered by the super-thin textiles piloerection, It has the writing effect which is the feature of suede, and soft tactile feeling, and has the graceful appearance further brewed from the feeling of a handle by the same color tone or a different color tone, and the object for garments is suitable for the object for interior design, shoes, pouches, various gloves, etc. from the first.

[0026]

[Example]Next, although an example explains this invention concretely, this invention is not limited to these examples. The part in an example and % are related with weight, as long as there is no notice.

[0027]The polymer style fused by the extruder melting system of 12 examples is made to join in a spinning head, Interflow was formed by the static mixing method which repeats division and integration, using the manufacturing installation of the multicomponent textiles which carry out melt spinning, an island component is 6-nylon and spinning of the sea-island type textiles of 50 islands where a sea component consists of high mobility low density polyethylene (a sea component / island component ratio = 40/60) was carried out. the obtained thread -- extension and crimp -- it cut and staple fibers 3.5 deniers, and [cut / 51 mm] in length were obtained. These staple fibers were used as the card with Webb with through and a crossing wrapper method, and were laminated. Next, needle punch was carried out with the needling density of 980 P/cm^2 using the felt needle which attached one varve to the needle, and the nonwoven fabric of eyes 450 g/m^2 was obtained. After [which the PVA10% solution was impregnated with and squeezed to this nonwoven fabric] afterbaking-drying, pressing and making the surface smooth, the dimethylformamide (it abbreviates to DMF) solution of 13% of polyurethane is impregnated, It solidified in DMF solution, and PVA removal was carried out, extraction removal of hot water rinsing and the polyethylene which is the sea components in

textiles with heat toluene was carried out, and the base for artificial leather which consists of the super-thin textiles and polyurethane with a thickness of 0.045 denier of 6-nylon was obtained. After dividing this artificial leather base into two in the middle of thickness, carrying out buffing of the parting plane with the sandpaper and thickness's being 0.5 mm, the surface at the time of coagulation was processed with the emery wheel machine, the pileerection side was formed, and it was dyed the lattice design pattern on condition of the following.

<Color liquid> color: YI gallane red 2G L 3 % solvent: The textiles pileerection sheet which carried out the decorative print by water/isopropyl alcohol =70/30 color was made to process and dye in the following hot water.

<dyeing> hot water temperature: -- 90 ** immersion time: -- 10 minutes [0028]After rinsing a textiles pileerection sheet, dip dyeing dyeing was carried out with the wince type dyeing machine using the further following 2:1 type metal complex dye.

color: -- Lanny Revel BW(Sumitomo Chemical)1.2% level dyeing agent: -- soaping and the suede tone artificial leather which rinse, dries, carries out ready hair and has a design pattern of 0.5 mm in thickness and eyes 210 g/m^2 were obtained after 1% dyeing. This suede tone artificial leather, without covering the whole surface by the super-thin textiles pileerection, and carrying out adhesion fixing of the pileerection textiles with a binder, It has the writing effect which is the feature of suede, and soft tactile feeling, and has the graceful appearance brewed from the feeling of a handle with the warmth by a further different color tone.

[0029]Example 2 island components are 6 **NAIRON, and the sea component carried out melt spinning of the sea-island type blend spinning textiles which consist of high mobility low density polyethylene (a sea component / island component ratio = 50/50). the obtained textiles -- extension and crimp -- it cut and 3.5 deniers and 51 mm of cut length's staple fibers were obtained. The above-mentioned staple was used as the card with Webb with through and a crossing wrapper method, and was laminated. Next, needle punch was carried out with the needling density of 980 P/cm^2 using the needle which attached one varve to the needle, and the nonwoven fabric of eyes 450 g/m^2 was obtained. After having heated and dried, pressing this nonwoven fabric and making the surface smooth, it was impregnated and the DMF solution of 13% of ether system polyurethane was solidified in DMF solution, extraction removal of the polyethylene was carried out with hot water rinsing and heat toluene, and the artificial leather base which consists of the super-thin textiles and polyurethane of 6 **NAIRON was obtained. After dividing this artificial leather base into two in the middle of thickness, the parting plane with the sandpaper and thickness's being 0.5 mm, the surface at the time of coagulation was processed with the emery wheel machine, and the pileerection side was formed, and by the following condition, the print roll was used and it was dyed polka dots.

<color liquid> color: -- yl gallane yellow GRN 2% solvent: -- the textiles pileerection sheet

which carried out water/isopropyl alcohol =70 / 30 color decorative print was made to process and dye in the following hot water

<dyeing> hot water temperature: -- 90 ** immersion time: -- 10 minutes [0030]After rinsing a textiles piloerection sheet, dip dyeing dyeing was carried out with the wince type dyeing machine using the further following 2:1 type metal complex dye.

Color: Lanny Revel BW (Sumitomo Chemical) 1.2% level dyeing agent: Soaping and the suede tone artificial leather which rinse, dries, carries out ready hair and has a design pattern of 0.5 mm in thickness and eyes 210 g/m^2 were obtained after 1% dyeing. This suede tone artificial leather, without covering the whole surface by the super-thin textiles piloerection, and carrying out adhesion fixing of the piloerection textiles with a binder, It has the writing effect which is the feature of suede, and soft tactile feeling, and has the graceful appearance brewed from the feeling of a handle with the warmth by a further different color tone.

[0031]Example 3 -- dip dyeing was performed for the sheet first produced by carrying out piloerection processing with a buff machine in Example 1 on condition of the following.

color: -- Lanny Revel BW(Sumitomo Chemical)1.2% level dyeing agent: -- after 1% dyeing and soaping -- it rinsed and dried. A print roll is used for the obtained textiles piloerection sheet by which uniform dyeing was carried out for the following dye solution, The <dye-solution> color applied in the shape of an alternate pattern: Yl gallane yellow GRN 5% solvent : after water/isopropyl alcohol =70 / 30 color spreading, The suede tone artificial leather which has a design pattern obtained without having made it dye in 90 ** hot water, and spoiling the piloerection of the whole surface, when ready hair was carried out, rinsing, desiccation, and. This suede tone artificial leather, without covering the whole surface by the super-thin textiles piloerection, and carrying out adhesion fixing of the piloerection textiles with a binder, It has the writing effect which is the feature of suede, and soft tactile feeling, and has the graceful appearance brewed from the clear feeling of a handle by a further different color tone.

[0032]Used the print roll all over the piloerection sheet produced by example 4 Example 1 carrying out buff processing, applied dye solutions including a lattice design to continuation in 2 steps, it was made to dye in hot water, and the suede tone artificial leather which has a lattice design pattern was obtained.

Lattice design partial <color liquid> color: Yl gallane red 2G L. 3 % solvent: -- water/isopropyl alcohol =70/30 -- in addition to this -- partial <color liquid> color: yl gallane yellow GRN 3 % solvent: -- water/isopropyl alcohol =70 / 30 <dyeing> hot water temperature: -- 90 ** immersion time: -- this suede tone artificial leather for 10 minutes, Without covering the whole surface by the super-thin textiles piloerection, and carrying out adhesion fixing of the piloerection textiles with a binder, it has the writing effect which is the feature of suede, and soft tactile feeling, and has the graceful appearance brewed from the clear feeling of a handle by a further different color tone. However, compared with the design pattern of Examples 1-3, there is no depth in a

design pattern a little, and it is slightly inferior in respect of a high grade feeling.

[0033]In comparative example 1 Example 1, the suede tone artificial leather which apply, and the blue solution which consists a piloerection fiber base of paints and a PU binder uniformly after dyeing it red is dried with the photogravure machine which has a lattice design pattern, and also has operation and a design pattern by the same method as Example 1 was obtained. As for the design pattern portion which applied the paints liquid of that in which this thing has a design pattern, the fluff has adhered with the binder.

A feeling of suede is lost, the writing effect is also scarce and tactile feeling is also spoiled.

[0034]Buffing of the surface of the artificial leather base in comparative example 2 Example 1 was not carried out, but the polyurethane resin solution containing red paints was coated and dried, and the coating layer with a film thickness of 50 microns was obtained. This coating layer was pressed and smoothed with the heating roller. Then, the board with a polka-dot projection was put on the back side of this base, the coating layer of the height was removed by carrying out buffing from the surface, and the piloerection was obtained. The artificial leather which has a pilomotor area of white polka dots and the contrast of other portions with silver by this was obtained. This thing has a design pattern, and although it is interesting appearance, suede cannot say it.

[Translation done.]